

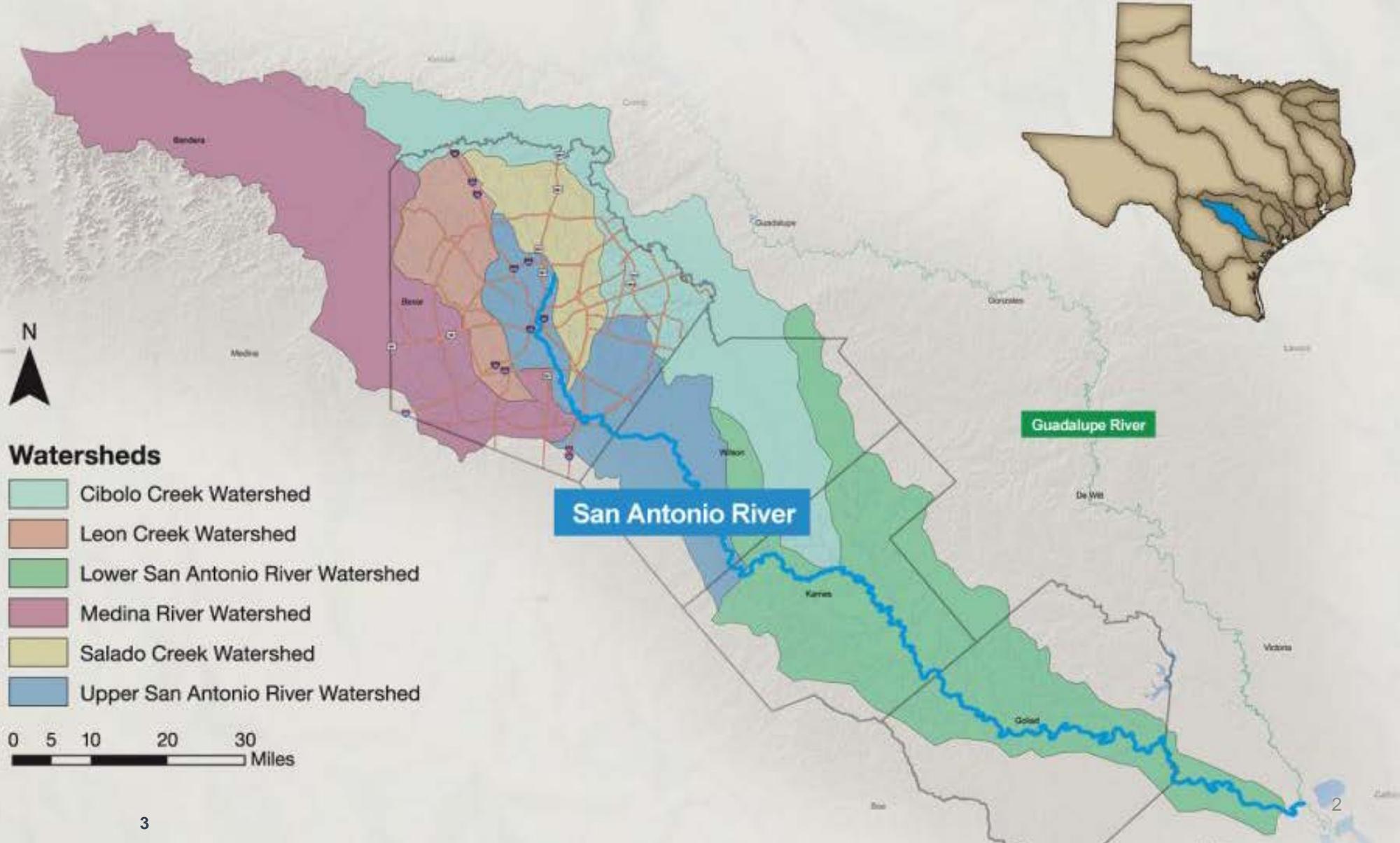


SAN ANTONIO
RIVER AUTHORITY

Leaders in Watershed Solutions

**A Case Study in Watershed Conservation:
Implementing Watershed Scale Best Management
Practices in the San Antonio River Basin**

INSPIRING ACTIONS FOR HEALTHY CREEKS & RIVERS



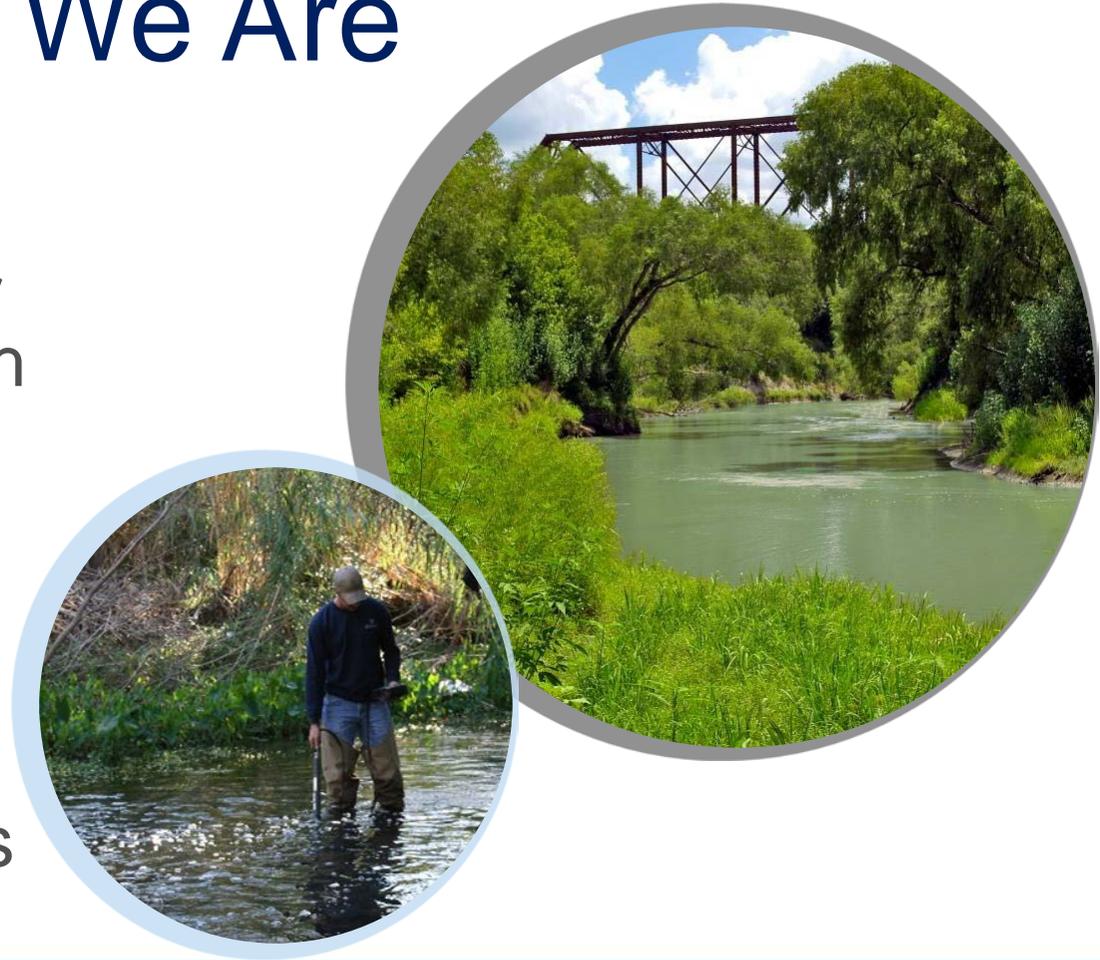
Who We Are

Our Mission

- Protect and enhance our creeks and rivers through service, leadership and expertise

Our Vision

- Inspiring actions for healthy creeks and rivers



SARA'S Taxing Authority

**Ad valorem
\$0.02 per \$100
assessed
value**

**Maximum
Allowable Tax
Rate**

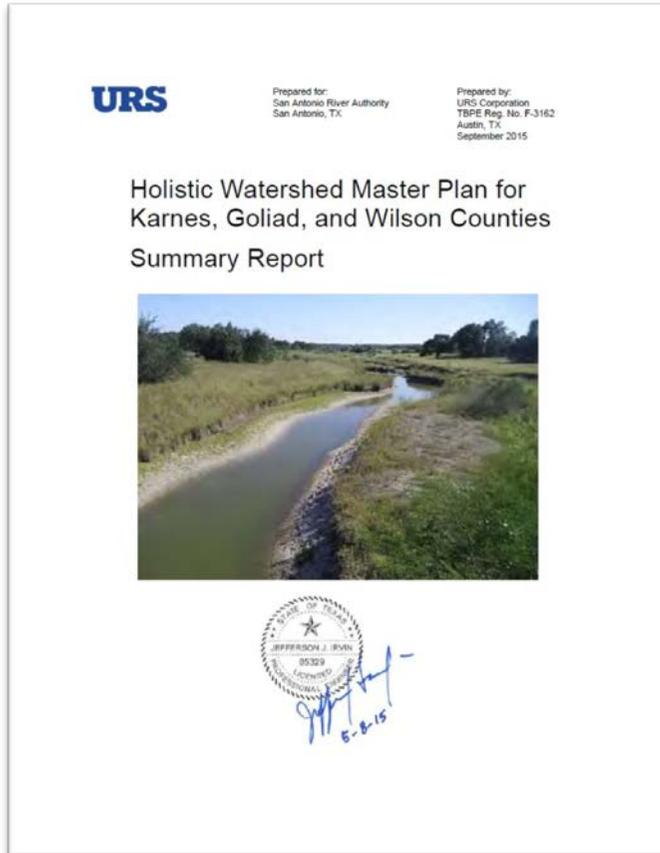
**Current Rate
\$0.01729 per
\$100 assessed
value**

**Average
Annual Tax
\$31.30
per year**

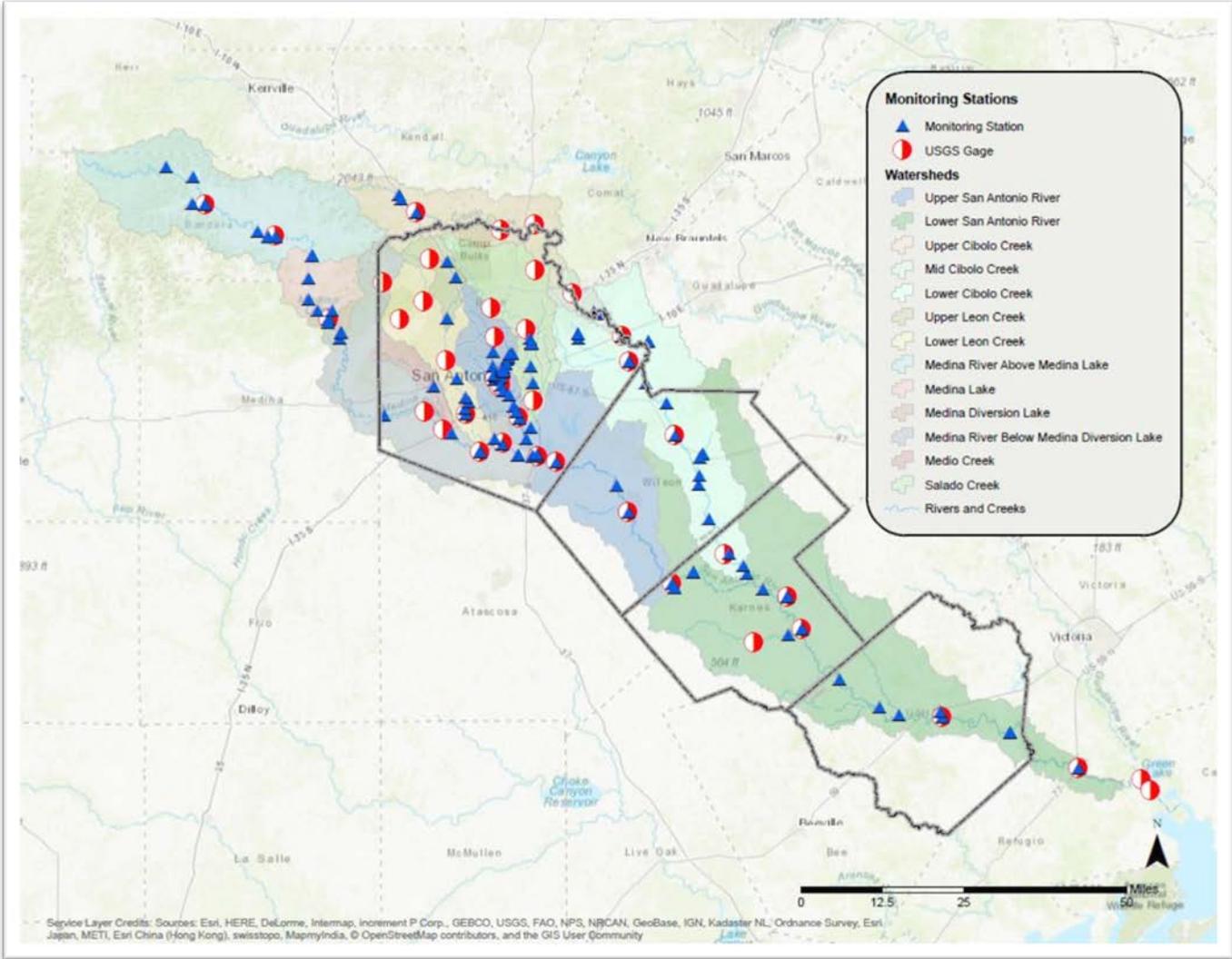
- Total property tax revenue \$27,062,143
- May only be used for O&M activities.
- Tax rate is same for Goliad, Karnes, Wilson, and Bexar counties



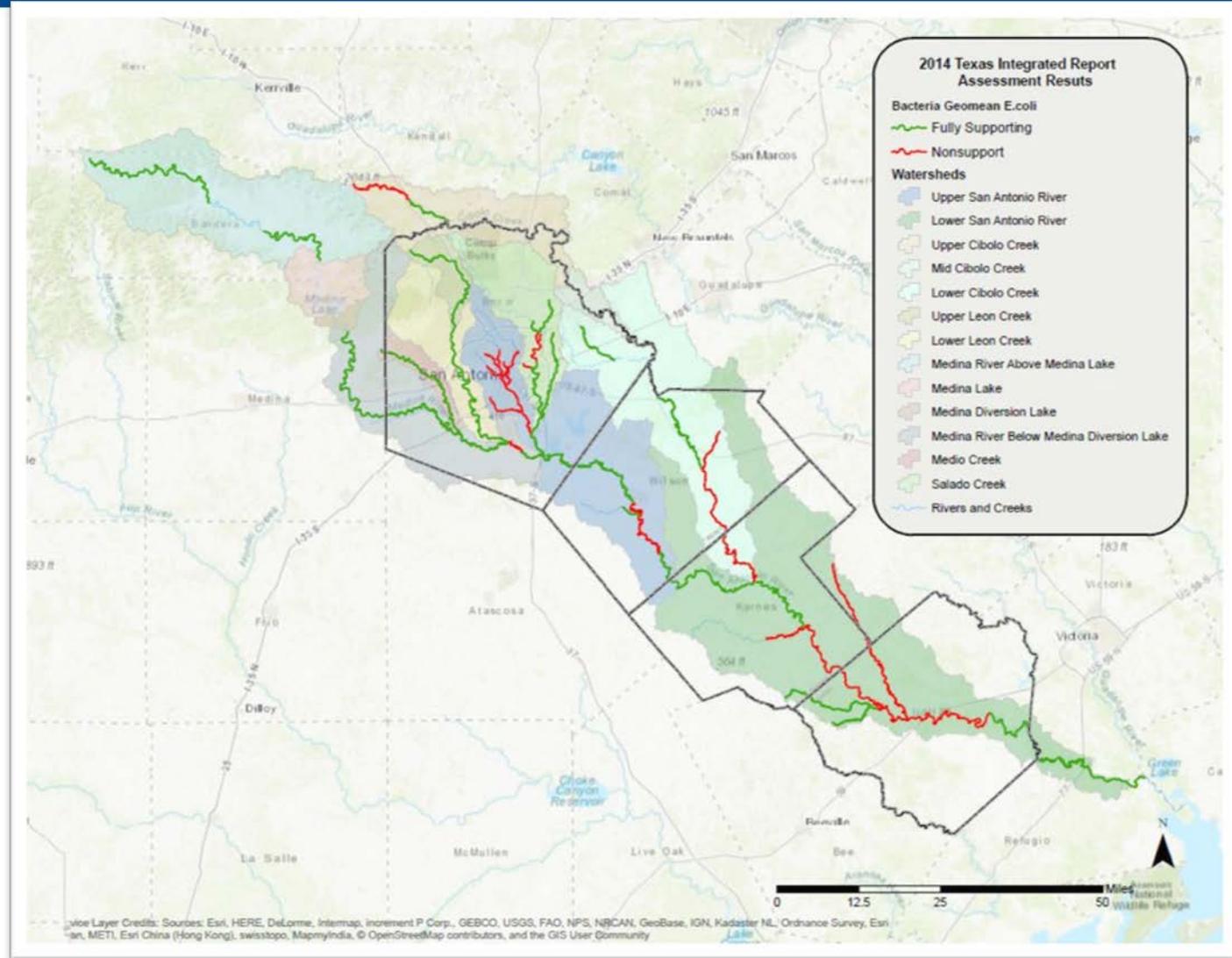
Watershed Master Planning



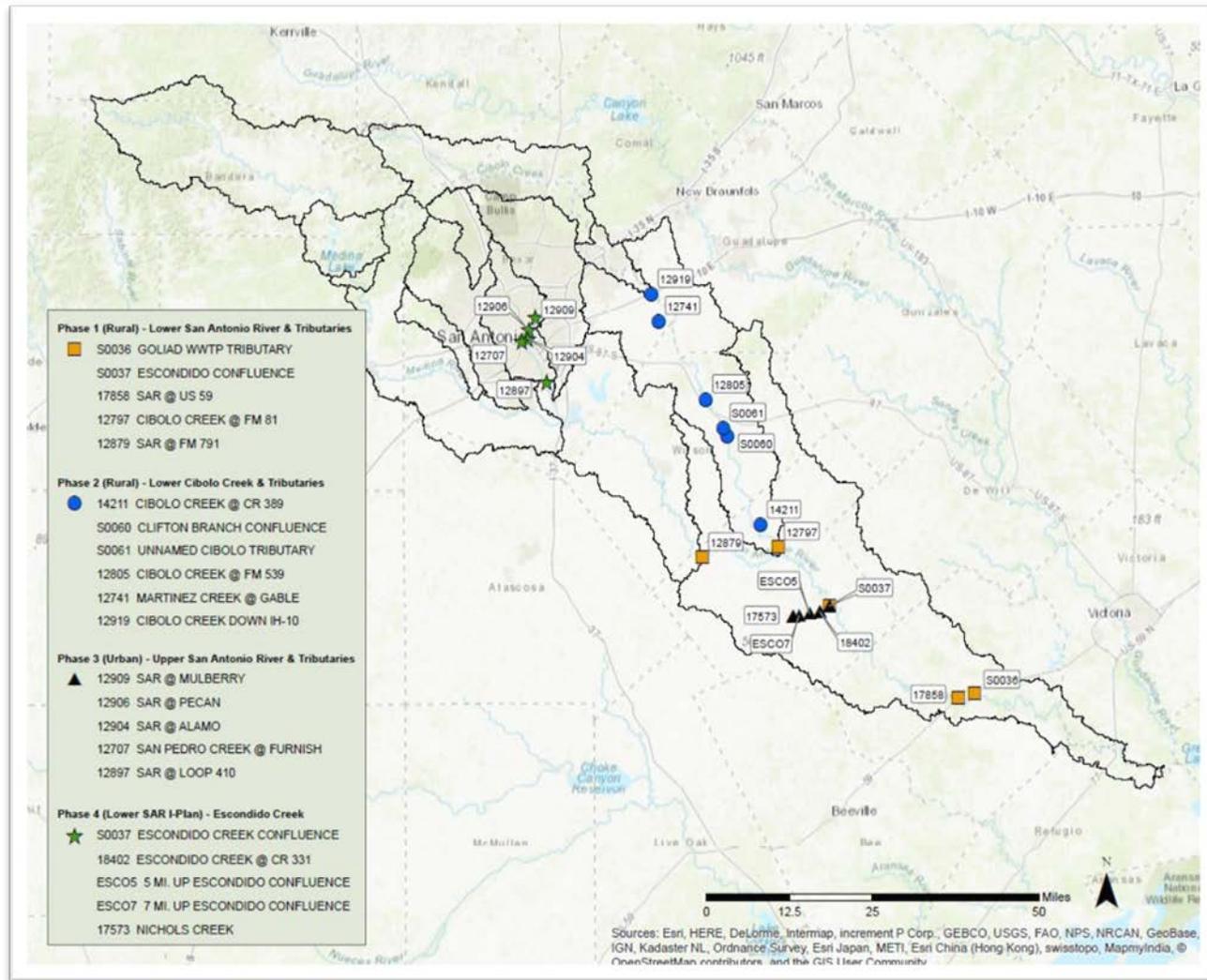
Water Quality Monitoring Stations



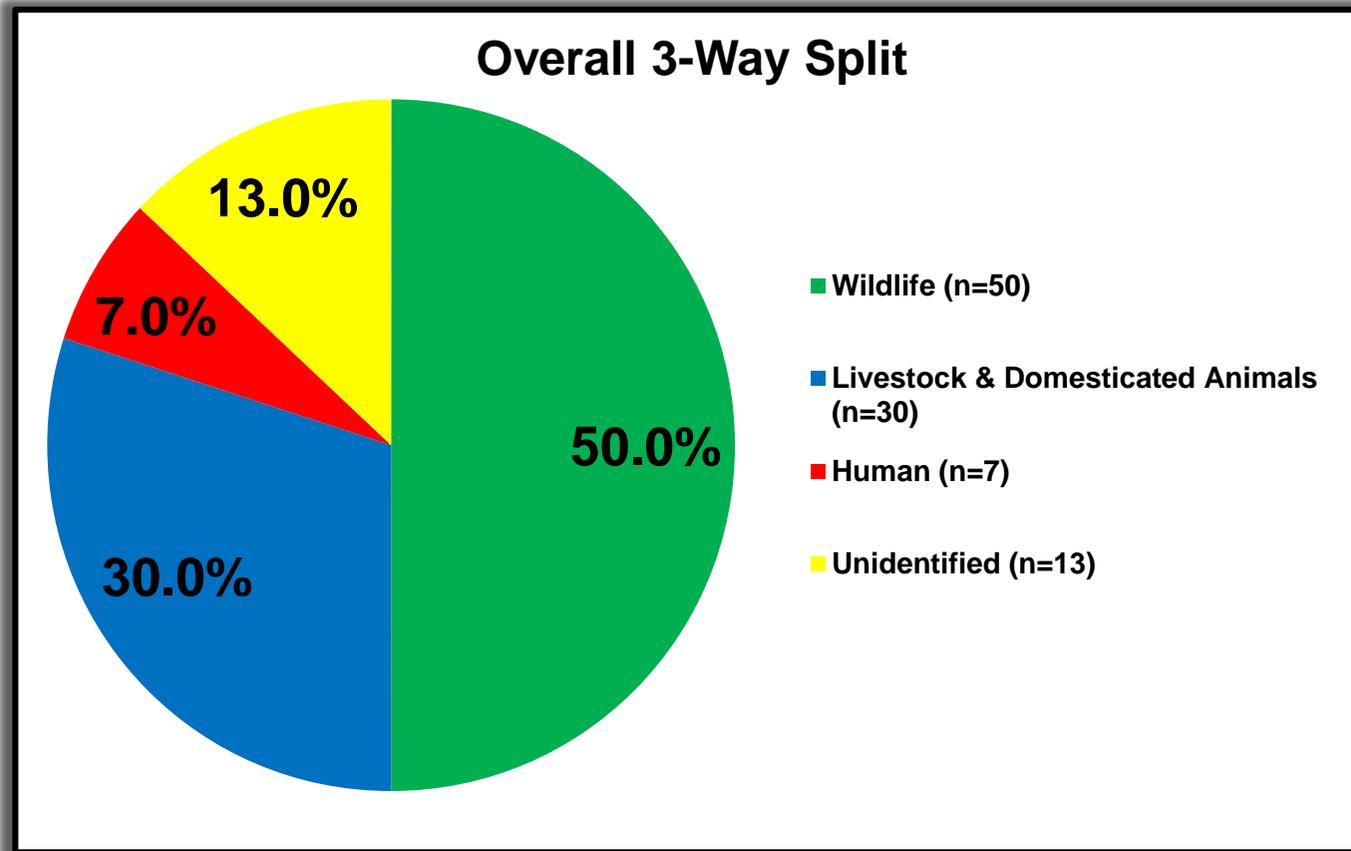
Water Quality Impairments



Bacteria Source Tracking (BST) Monitoring Stations



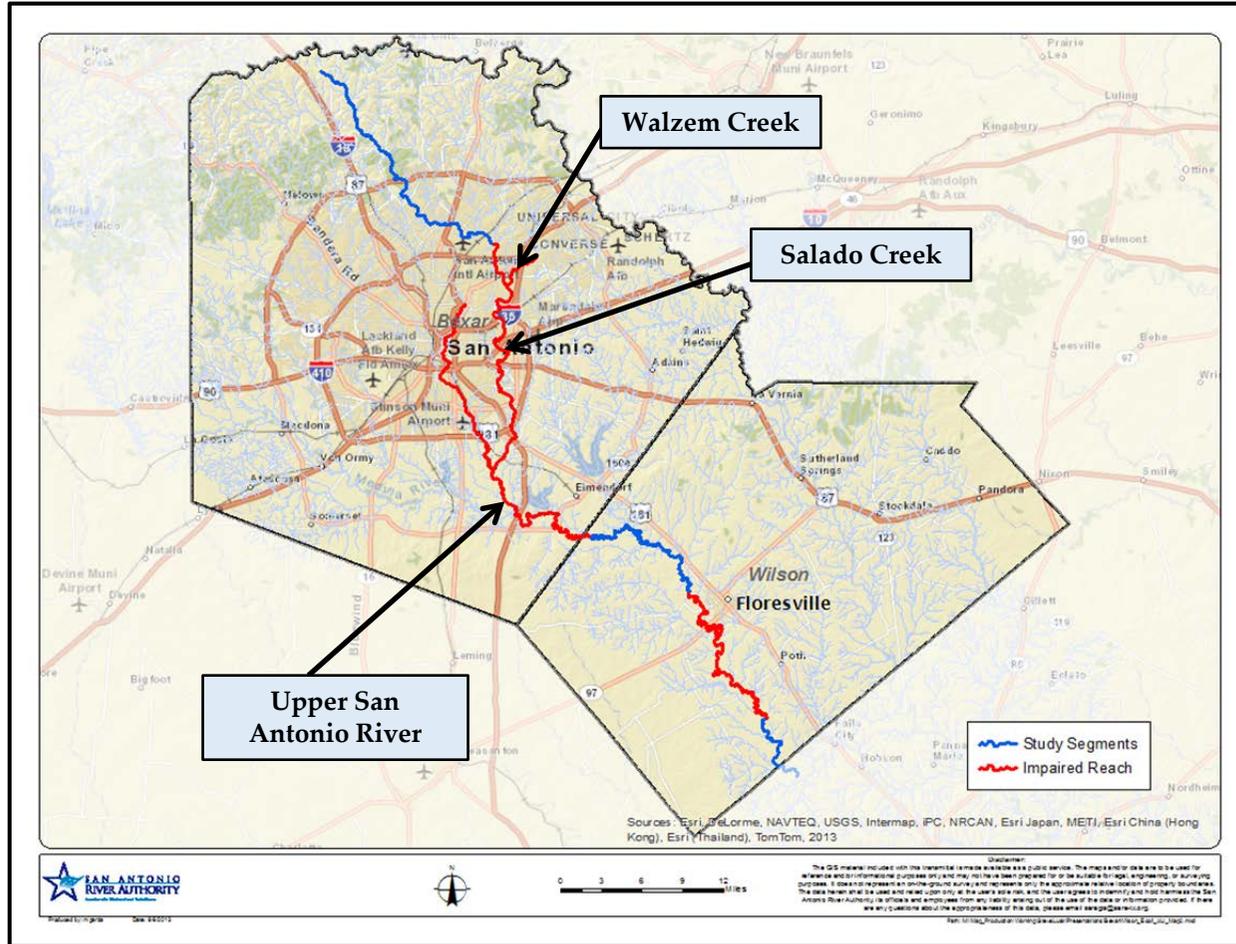
LSAR BST Results



Source classification of *E. coli* isolates (n=100) from 10 samples

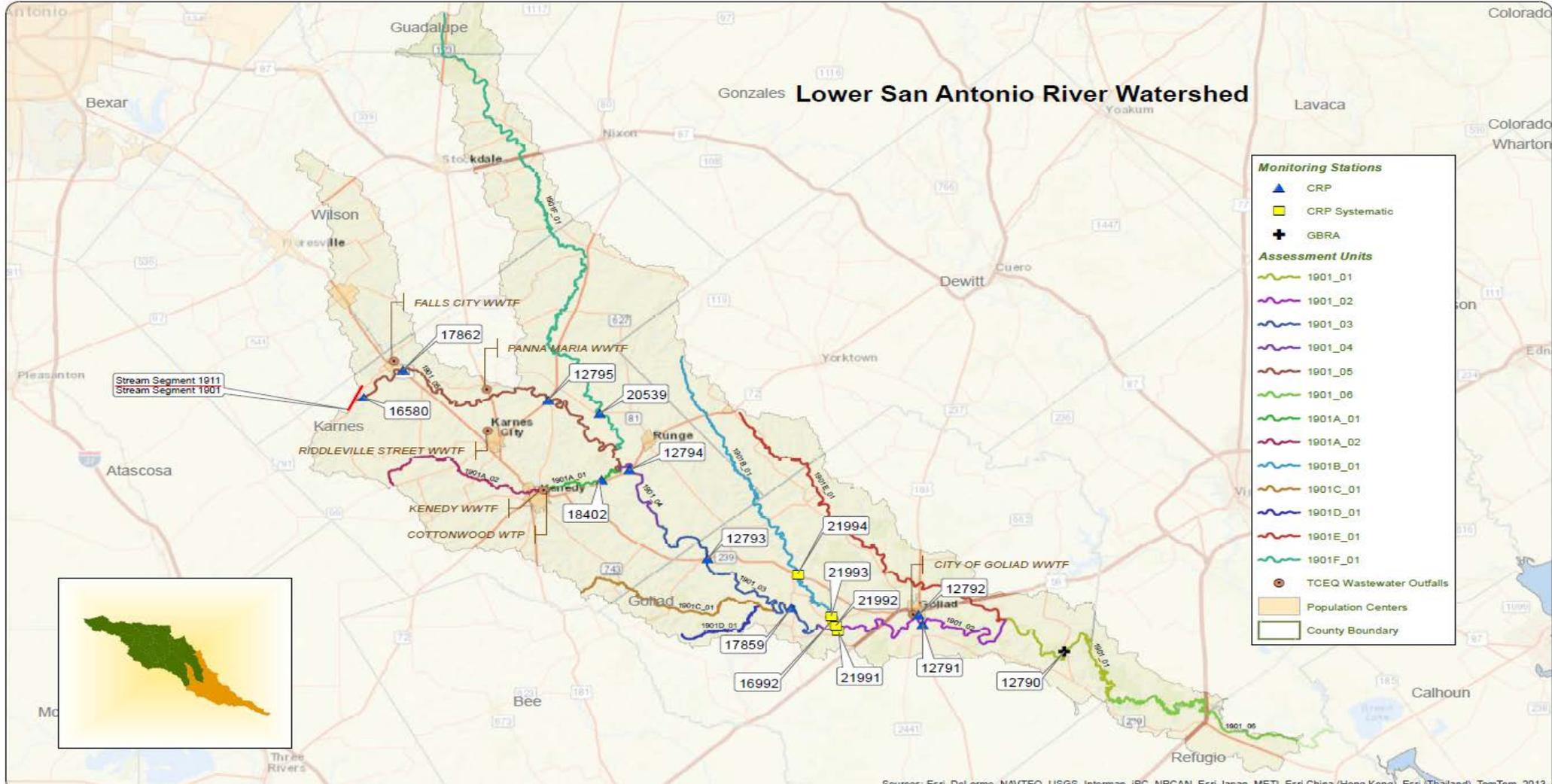


UPPER SAR IMPLEMENTATION PLAN



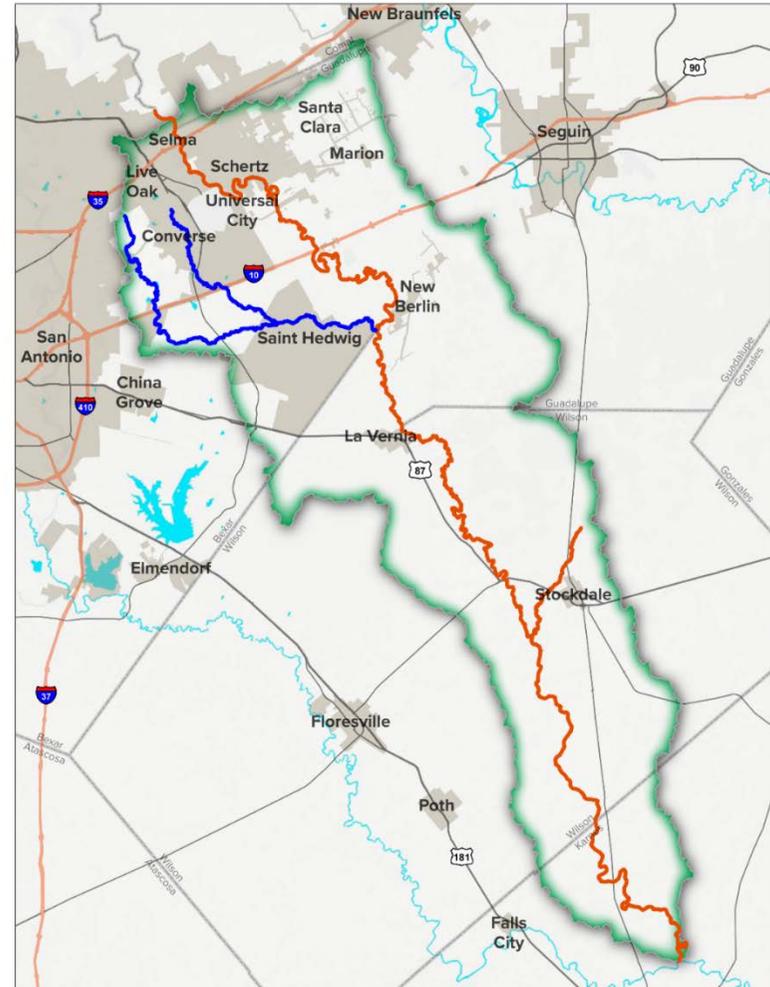
INSPIRING ACTIONS FOR HEALTHY CREEKS & RIVERS

LOWER SAR IMPLEMENTATION PLAN



Mid/Lower Cibolo Watershed Protection Plan

- Development of WPP Started in 2017
- Completion Scheduled for Fall 2018



Management Measures

- Agricultural Conservation and Management Plans
- Feral Hog Management
- Manage Onsite Sewage Facilities
- Manage Sanitary Sewer Overflows and Wastewater Treatment Facility discharges
- Restore and repair riparian zones
- Stormwater Management/ Low Impact Development
- Reduction of illicit dumping
- Water Quality Monitoring
- Re-designation of Cabeza Creek



Best Management Practices

- Soil & Water Conservation District Partnership
- Regional Conservation Partnership Program
- Feral Hog Management Project
- Ag Chemical/Hazardous Household Waste Pickup
- Environmental Investigations Team
- Low Impact Development Grant & Rebate Program
- Bed and Banks Ownership
- Special Studies
- Education



Soil & Water Conservation District Partnership

Provide \$25,000 to each San Antonio River Basin SWCDs for:

- Education & Outreach
- Technical Assistance
- Conservation Practices

Special Programs

- Provide funds to landowners for broomrape management
- Pilot individual plant treatment for brush management

Soil and Water Conservation District

Karnes County SWCD

491 N. Sunset Strip, Suite #103
Kenedy, TX 78119-2721
karnescountyswcd@tx.nacdn.net

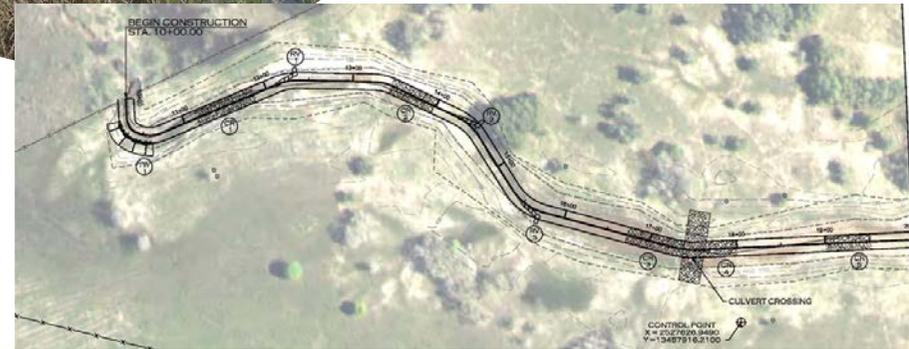


Cost Share
Assistance Program:
Implementing
Conservation
Practices



Regional Conservation Partnership Program (RCPP)

- Funding for stream restoration
 - 1500 feet of degraded stream being restored
- Outreach
 - Local News Articles
 - Landowner Workshops and Tours
 - Site Visits
 - Technical Assistance



Feral Hog Program

Collaboration with:

- Texas A&M Agrilife
 - Education/Outreach
- APHIS/Texas Wildlife Services
 - Feral Hog Abatement
- Budget
 - \$75,000/year

SAN ANTONIO RIVER AUTHORITY FERAL HOG MANAGEMENT PROGRAM

"In Texas, it is estimated that feral hogs cause approximately \$52 million of damage annually to the agricultural industry."



The San Antonio River Authority (SARA) has partnered with Texas A&M AgriLife and USDA - APHIS Wildlife Services to promote feral hog education and management strategies to landowners in SARA's four county jurisdiction— Bexar, Wilson, Karnes, and Goliad.

The Feral Hog Management Program will address education and provide technical support to landowners interested in controlling the feral hog population. With the assistance of USDA - APHIS Wildlife Services, the program will actively manage the feral hog population in specific regions of the watershed.

USDA - APHIS Wildlife Services is looking for landowners that live in the Bexar, Wilson, Karnes, and Goliad area who are dealing with feral hog issues on their property. This program is open to landowners in SARA's District and does not require riparian land to be on the property.



All Techniques Used Totals

Technique	2015-2016	2016-2017
Ground Level Gunning	92	244
Aerial Gunning	203 (all in Goliad)	299
Night Vision/Infrared Equip	0	29
Snares	44	56
Corral Traps	760	757
Corral Trap Loaner	0	62
Total	1,099	1,447



Agricultural Chemical Collection

1st Agriculture Chemical Collection

- May 2015
- Collected 4,025 lbs.

2nd Agricultural Chemical Collection

- October 2016
- Collected 10,091 lbs.

3rd Agricultural Chemical Collection

- October 2017
- Collected TBD

BEXAR • WILSON • KARNES • GOLIAD

AGRICULTURAL CHEMICAL COLLECTION EVENT



Dispose of old, outdated, unusable ag chemicals free of charge and in complete confidentiality.

FRIDAY, OCTOBER 20 FROM 10 A.M. – 2 P.M.

What we will accept

- Known and unknown waste
- Outdated / discontinued waste
- Unwanted agricultural pesticides (Insecticides, Herbicides, & Fungicides)
- Triple rinsed, empty containers

What is not accepted?

- Explosives
- Petroleum products
- Paints
- Household Pesticides & Chemicals

For more information, please contact your local Agrilife Agent's Office.

Bexar: (210) 631-0400
Wilson: (830) 393-7357
Karnes: (830) 780-3906
Goliad: (361) 645-8204

The San Antonio River Authority (SARA) is hosting an Agricultural (Ag) Chemical Collection event for landowners in Bexar, Wilson, Karnes, and Goliad counties on October 20 from 10 a.m. to 2 p.m. at the Wilson County Precinct 1 Yard (142 FM 536, Floresville, TX 78114).

Confidential Process
Holders of old pesticides who plan to participate are encouraged to fill out an inventory form to register for the collection. The forms are for planning purposes only and strict confidentiality is maintained. Inventory forms are available at your local Agrilife Extension Office.

TEXAS A&M AGRILIFE EXTENSION | SAN ANTONIO RIVER AUTHORITY | USA® RECYCLING

Walk-ins are welcome, but completing an inventory form is highly encouraged. Free event, first come, first served. Local Residents only - No businesses.



Household Hazardous Waste

Results since 2013 Household Hazardous Waste Collection Events

- 183,157 lbs. of HHW
- 98,236 lbs. of E-waste
- 789 lbs. of Pharmaceuticals
- 6,914 Tires



WILSON COUNTY COLLECTION EVENT
Household Hazardous Waste, Used Tires, Used Electronics & Pharmaceutical Waste
Saturday, October 21, 2017 - 8 a.m. to Noon
Precinct 1 Yard - 142 FM 536, Floresville, TX
Residents of Wilson County only, proof of address required - No businesses.

WHAT TO BRING FROM HOME
The following items will be accepted in household quantities, at no charge:

HOUSEHOLD HAZARDOUS WASTE:

- Acids
- Antifreeze
- Automobile Tires with no Rims
- Batteries
- Light Truck Tires with no Rims
- Used Motor Oil & Filters
- Transmission & Brake Fluid
- Cleaning Products (polish, oven cleaner, stain remover, drain openers)
- Household Products Labeled "Caution," "Warning" or "Poison"
- Paint, Solvents & Varnish
- Pool Chemicals
- Lawn & Garden Chemicals, Herbicides & Pesticides

USED ELECTRONICS:

- Electronics-Microwaves, Blenders, Toasters
- Televisions (no wooden consoles)
- Monitors Computer Components & Parts

PHARMACEUTICAL WASTE:

- Prescription Meds (pills, liquids, creams, patches)
- Non-Prescription (pills, liquids, creams, patches)
- Pet Medications
- Vitamin & Herbal Supplements
- Inhalers
- LEAVE items in original containers & Black out all personal information

DO NOT BRING
We are unable to collect the following items:

- Tractor Tires, Tires with Rims
- Agricultural Chemicals
- Disinfectants
- Large Appliances or A/C Units
- Containers Larger Than 5 Gallons
- Explosives
- Large Propane Cylinders
- Radioactive Materials
- Industrial or Commercial/ Business Waste
- Compressed Gas Cylinders
- Ammunition
- Rums with Asbestos
- Construction & Demolition Debris
- Scrap Metals
- Household/Office Furniture or Toys

PHARMACEUTICAL WASTE:

- Sharps
- Syringes
- Oxygen Tanks
- Pen Needles
- Lancets

FREE on a first come, first served basis. Collection will close at the discretion of the sponsors. For more information, call 1-866-345-7272 ext. 3228





Environmental Investigations

Respond to and coordinate with regulatory agencies on:

- Stormwater runoff
- Floodplain violations
- Illegal dumping
- Water quality issues
- Pollution complaints
- Hazardous waste spills



Debris Removal

- Evaluate and prioritize the removal and clean-up of significant debris in a waterway or on the immediately adjoining property that is impacting water quality or flood conveyance efficiency



Low Impact Development (LID)

A design approach modeled after nature to **manage stormwater runoff** in a manner that **mimics natural hydrologic processes**, providing **benefits for water quality** and **mitigating negative impacts** of stormwater runoff on downstream resources including streams and rivers



Permeable Pavement



Stormwater Cisterns



Bioswales



Planter Box



SARA's Watershed Wise Rebate Program

Watershed Wise Rebate - Open

- Application Deadline: January 31, 2018
- Available for Bexar, Wilson, Karnes and Goliad counties
- Rebate for construction of:
 - Stormwater best management practices on either new or retrofit projects
- Projects need to have a min. reimbursement request of \$15,000 and a max. of \$100,000
- Funds paid after project is complete and inspected



**Wilson County Court House
Permeable Pavers \$70,181.25**



SARA's Watershed Wise School Grant Program

Watershed Wise School Grant - Open

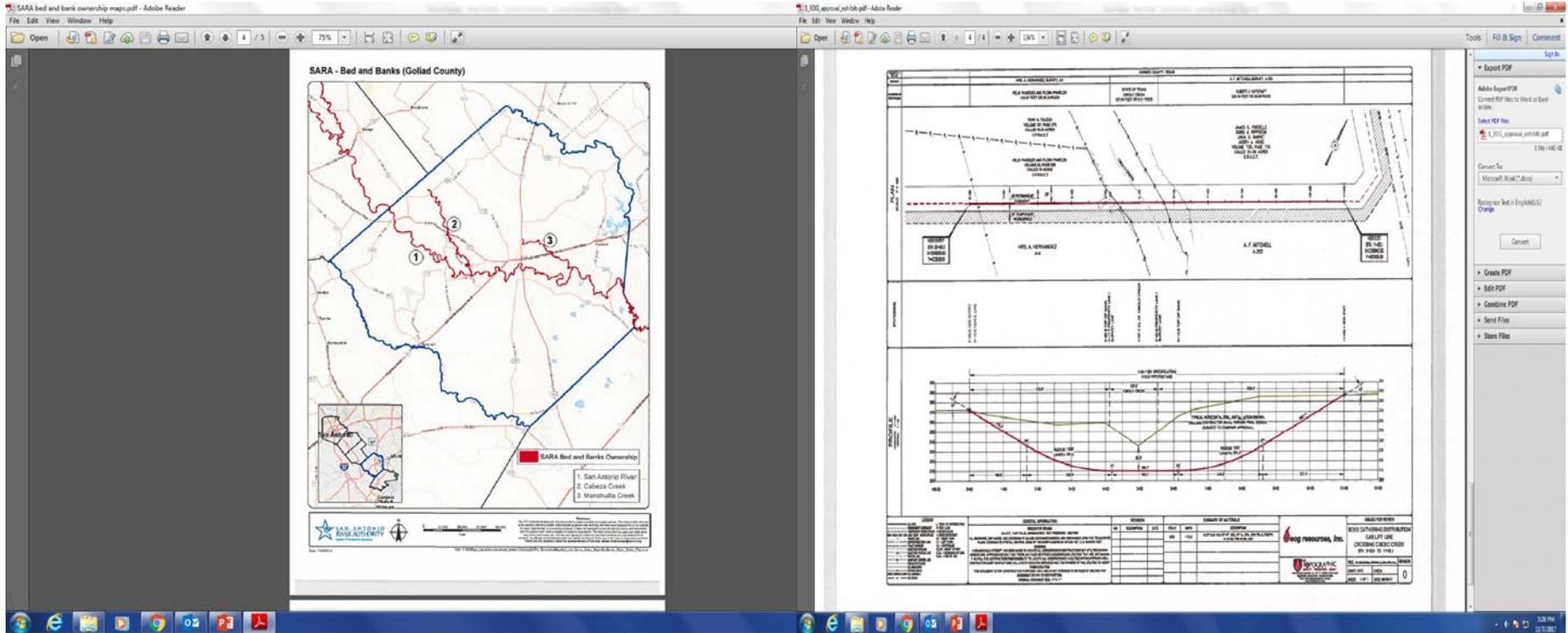
- Application Deadline: February 2, 2018
- Available for Bexar, Wilson, Karnes and Goliad counties
- Funds to build stormwater runoff capture features
- Three \$22,000 grants available for 2017-2018 school year
- Purpose is to educate the public about campus drainage issues and how to resolve them by utilizing green infrastructure



Floresville North Elementary School



Bed and Banks Ownership



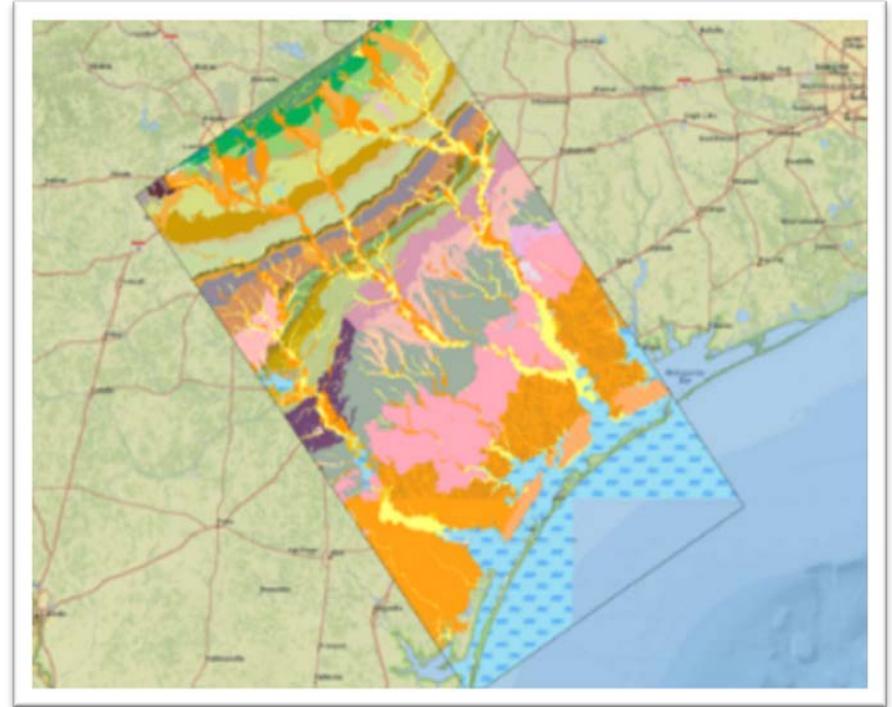
Sediment Source Mobility Study

- Collaboration with UTSA to collect data regarding how sediment is transported through the Lower San Antonio.
- Key advancement to restore streams, address erosion, and protect habitat for key aquatic species.



Groundwater Surface Water Interaction Modeling

- Advance groundwater models used for resource planning
- Respond to community needs
- Helps plan for changing stream restoration needs & ecological changes within coastal environment



Instream and Environmental Flows

- SARA participates in:
 - Instream Flows Program
 - Environmental Flows Stakeholder Committee (GSA-BBASC)
 - Ecological Dynamic Simulation Model (EDYS)
 - San Antonio Bay
 - Goliad, Refugio and Victoria
 - Wilson and Karnes
 - Estuary Response
 - Rangia Clam Investigation (Complete Sept. 2015)
 - Environmental Flows Validation Study (Complete Sept. 2015)



Holistic Mussel Survey

- US Fish and Wildlife is considering listing 5 Texas mussel species as either threatened or endangered
- Three of those species are identified with potential historical distributions in the San Antonio River Basin
 - Texas Fatmucket
 - Texas Pimpleback
 - Golden Orb



Mussel Survey



- Threeridge
- Washboard
- Paper Pondshell
- Yellow Sandshell
- Pistolgrip
- Golden Orb



Bay and Estuary Support

- San Antonio Bay Partnership (SABP): A stakeholder-driven watershed/estuary protection and management program for the San Antonio Bay/Guadalupe Estuary System
- SARA funds \$25,000 annually to the SABP Challenge Grant Program
- SARA jointly funds with GBRA two water quality monitoring gages in San Antonio Bay.
- SARA participates in Ecological Dynamic Simulation Model (EDYS)
 - San Antonio Bay
 - Goliad, Refugio, and Victoria
- 2015/2016 whooping crane count 340
- 2016/2017 whooping crane count 431



Education

The SARA Education Team in the IGCR department leads the way bringing watershed education to the Southern Basin students and community members.

- The team actively works with partners to bring targeted programming to 3rd, 4th, and 5th graders as well as high schools and families.
- For the 3rd year in a row, 100% of 5th grade classrooms were provided inspiring watershed education.
- Last year, SARA's IGCR education team visited 4,180 students in the Southern Basin counties.



River Reach

- Quarterly newsletter
 - Published 4 times per year and sent to subscribers
- One page insert
 - Published 12 times per year in local newspapers for Wilson, Karnes & Goliad counties

San Antonio River Authority
SARA's Vision
Inspiring Actions for Healthy Creeks and Rivers

SARA's Mission
Protect and Enhance Our Creeks and Rivers Through Service, Leadership and Expertise

The State of Texas has empowered the San Antonio River Authority (SARA) to preserve, protect and manage the resources and environment of the San Antonio River and its tributaries. Our district spans Bexar, Goliad, Karnes and Wilson counties, yet our concern for the quality and quantity of water extends our focus beyond these boundaries, as factors outside the district contribute to the health and well being of the river and our communities. Through the knowledge and skill of professional and technical staff, we continue to develop and sustain the expertise needed to fulfill our service mission.

River Reach

AUGUST 2017
Monthly Newsletter for Wilson, Karnes and Goliad Counties

Household Hazardous Waste Collection Event Scheduled for Goliad

By Chelsea Giles, Intergovernmental Relations Coordinator

The San Antonio River Authority (SARA) will host the annual free Household Hazardous Waste Collection Event in Goliad, and it is only a few days away.

On Saturday, September 9, 2017, Goliad County residents can dispose of unwanted household hazardous waste such as household chemicals, motor oil, batteries, paints and solvents, used tires without rims, small electronics and pharmaceuticals at the Goliad Memorial Auditorium located at County Fairgrounds Road.

Regular household trash, furniture, construction debris, and large appliances cannot be accepted at this event however the Goliad County Transfer Station accepts

such items. The Transfer Station on Perez Road is open 8:30am - 5:00pm Monday, Tuesday, Thursday and Friday and 8:00am - 2:00pm on Saturday.

Household products contain corrosive, toxic or ignitable ingredients, which require proper disposal methods to prevent them from entering our creeks and rivers. The waste will be properly disposed or recycled according to state and federal laws.

The Household Hazardous Waste Collection events are not only important to keep our environment safe and healthy, but these events also help raise community awareness of the importance of properly disposing of all materials.

For guidelines and a full list of items that will or will not be accepted, contact Chelsea Giles, SARA Intergovernmental Relations Coordinator at 5-866-345-2772 ext. 3228, see the ad in an upcoming Goliad Advance Guard or Upcoming Events page at www.sara-tx.org.

Results of 2016 Household Hazard Waste Events

County	Total lbs. of HW	Total lbs. of E-Waste	Total Tires
Wilson 2016	28,972 lbs.	21,438 lbs.	1,608
Karnes 2016	32,337 lbs.	4,820 lbs.	1,170
Goliad 2016	5,026 lbs.	3,540 lbs.	623

Stay tuned for the dates and locations of the fall collections in Karnes and Wilson Counties. SARA appreciates the support of local partners who continue to help make the HHW collection events successful.

THE SAN ANTONIO RIVER AUTHORITY

River Reach

SUMMER 2017
the COMMUNITY NEWSLETTER of the SAN ANTONIO RIVER AUTHORITY

CELEBRATING
80
YEARS
OF SERVICE
1937-2017
SARA-TX.ORG



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Questions?

